

Research Naval Postgraduate School (NPS Research Newsletter)

140045/45500





VOLUME I, NO. 2

JULY 2009

## RESEARCH AT NPS

The Research and Sponsored Programs Office would like to take the opportunity to express our appreciation to the faculty, staff and students at the Naval Postgraduate School...particularly those involved in our sponsored programs. We have tried over the years to streamline the administrative processes associated with sponsored programs, provide timely accurate reports to principal investigators and program managers, as well as promote the good work being performed at NPS.

The recent deployment of the on-line attestation tool has received overall good reviews. Comments and suggestions received are being incorporated into future releases of the tool. We have also found that the conversion of the attestation process from a manual, paper intensive

challenge to a relatively simple on-line process has brought forth a secondary benefit. Although we would have "liked to assume" that all principal investigators/program managers were familiar with the on-line reports available in DORS/DMAS, we knew the reality was that only a percentage were using the on-line DORS/DMAS reports to monitor their project accounts. With attestations now required on-line at the DORS/DMAS website, principal investigators/program managers who previously did not utilize the DORS/DMAS website now realize the opportunity to avail themselves of the current status of their project accounts at any time on their desktop. We are appreciative of the growing usability of the DORS/DMAS reports.

### IMPORTANT DATES

#### Brown-Bag Seminar Series

- Research Initiation Program  
Wednesday, 17 August, 1200–1300, SP 101A
- Working with Industry  
Wednesday, 23 September, 1200–1300, SP 101A
- Contracting for Support Services  
Thursday, 22 October, SP 101A
- Graduate Research Assistantships  
Monday, 24 November, SP 101A

#### Call for Proposals/White Papers

- Defense University Research Instrumentation Program (DURIP).  
Proposal deadline, 15 September  
RSPO deadline 11 September
- CNO Worldclass Modeling (WCM) Initiative.  
Proposal deadline, 28 August  
RSPO deadline 26 August
- NPS Research Initiation Program
  - Proposals (Year One): Due one month before research quarter begins
  - Progress Reports (Year Two): Due 15 October 2009

#### Research Showcases

- Centennial Showcase Event
  - 9 September, 1000–1500, Office of Naval Research, Arlington, VA
  - 10 September, 1700–2000, Army–Navy Country Club, Arlington, VA

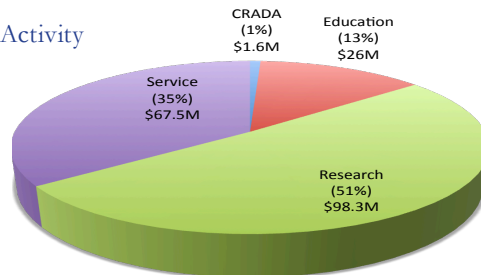
#### Research Board Meetings

The Research Board meets monthly on fourth Thursdays at 1500.

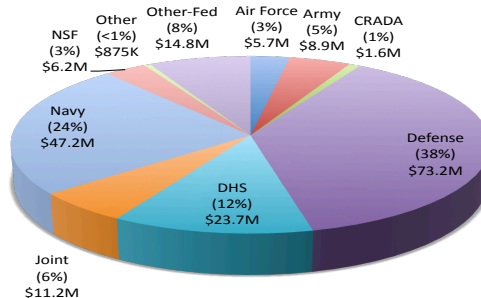
### SPONSORED PROGRAMS STATUS—JULY 2009

Funds Received to Date: \$193.4M

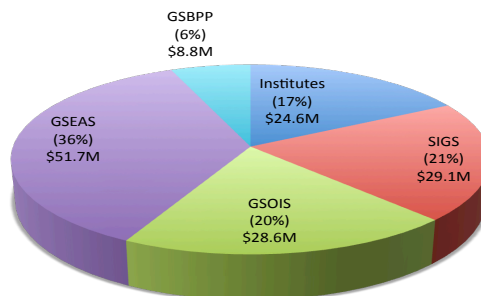
#### By Type of Activity



#### By Sponsor



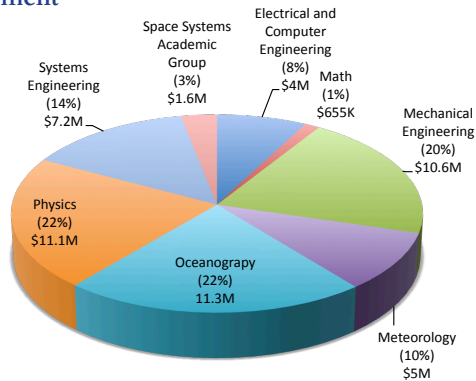
#### By School



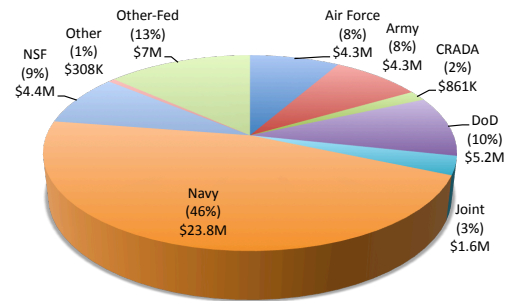
## Graduate School of Engineering and Applied Sciences

Funds received to date: \$51.7M

### By Department



### By Sponsor



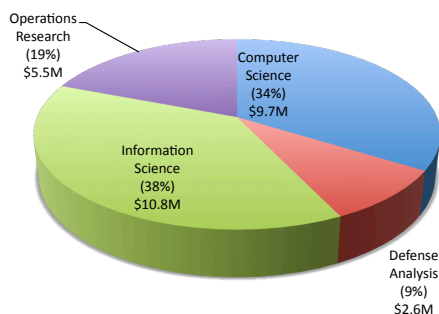
### Projects funded in July:

- Missile Aerodynamics Short Course, *Christopher Brophy*, *Mechanical and Astronautical Engineering* (NAWC-Weapons Division)
- Damage Detection in Composite Interface through Carbon Nanotube Reinforcement, *Young Kwon*, *Mechanical and Astronautical Engineering* (AFOSR)
- Weather Forecasting for Ft Ord Prescribed Burns, *Wendell Nuss*, *Meteorology* (USA Corps of Eng)
- Modeling and Simulation of Acoustic Sonar Transducer Array Elements and their Interaction, *Steven Baker*, *Physics* (L-3 Communications)
- High-Level Statistical/Analysis Support, *Ronald Carlson*, *Systems Engineering* (NAVAIR)
- Creating a Systems Engineering Body of Knowledge, *Ronald Carlson*, *Systems Engineering* (OSD)
- Army Modeling and Simulation Management Curriculum and Delivery, *Eugene Paulo*, *Systems Engineering* (Army Modeling and Simulation Directorate)
- Advanced Power System Model-Based Architecture and Design Methods, *Clifford Whitcomb*, *Systems Engineering* (ONR)
- Support for Free Election Laser, *Bill Colson*, *Physics* (ONR)
- Snow Cover Research with Multispectral Sensors, *Richard Olsen*, *Physics* (NGA)
- Spectral and Polarimetric Analysis for National Signature Program, *Richard Olsen*, *Physics* (National Signatures Program)
- Formal Modeling of User Demand-Based Network Systems, *Kristin Giammarco*, *Systems Engineering* (USACERDEC)
- Share Transition Support and Repository Tool Design, *Jean Johnson*, *Systems Engineering* (PEO IWS)
- Optimization and Design of High-Efficiency, Space-Based, Multi-Junction Solar Cells using SILVACO Virtual Wafer Fabrication Software, *Sherif Michael*, *Space Systems* (NRO)
- Student Rideshare Payload Model, *James Newman*, *Space Systems* (CAL Space Education Workforce Institute)

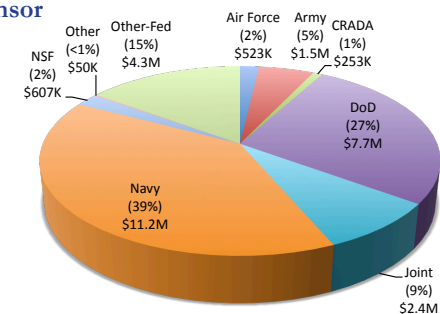
## Graduate School of Operational and Information Sciences

Funds received to date: \$28.6M

### By Department



### By Sponsor



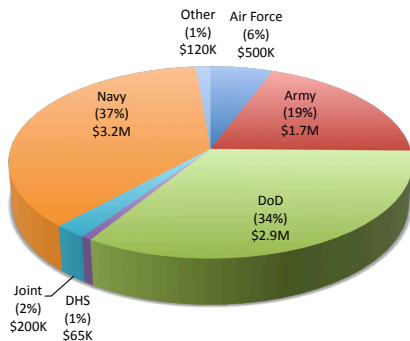
### Projects funded in July:

- Automated Media Exploitation Research FY10, *Simson Garfinkel*, *Computer Science* (DIA)
- Analysis of Potential Approaches, Methods, and Techniques for Discovery and Monitoring of Adversarial Activities, *Gurminder Singh*, *Computer Science* (SPAWAR-Charleston)
- Sensor Analysis for CBP Tunnel Problem, *Gurminder Singh*, *Computer Science* (TRAC-Monterey)
- Human Factors Analyses Pertaining to Littoral Combat Ship, *Michael McCauley*, *Operations Research* (NSWC-Panama City)
- Front-End Operations Research Analytical Models for CBP Tunnel Problem Project, *Steven Pilnick*, *Operations Research* (TRAC-Monterey)
- Human Systems Integration Education OA4414 Course Development and Tuition, *Lawrence Shattuck*, *Operations Research* (NAWC-Aircraft Division)
- Customs and Border Patrol Protection Data Analysis, *Lyn Whitaker*, *Operations Research* (TRAC-Monterey)

## Graduate School of Business and Public Policy

Funds received to date: \$8.8M

### By Sponsor



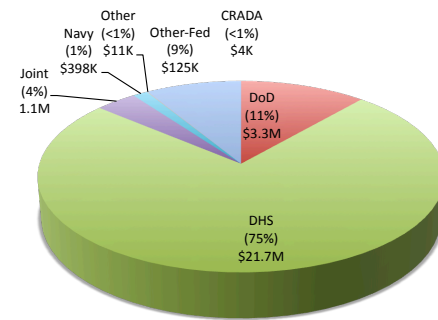
### Projects funded in July

- Study of Budget Formulation and Execution in Defense Manpower Data Center, *Douglas Brook* (DMDC)
- Advanced Acquisition Program 40-01, *John Dillard* (USCG)
- Exploring Communication Strategies: An Examination of US Federal Agency, *Cynthia King* (DCAA)
- Contract/Program Management Distance Learning Program, *Walter Owen* (Various)

## School of International Graduate Studies (National Security Affairs only)

Funds received to date: \$29M

### By Sponsor



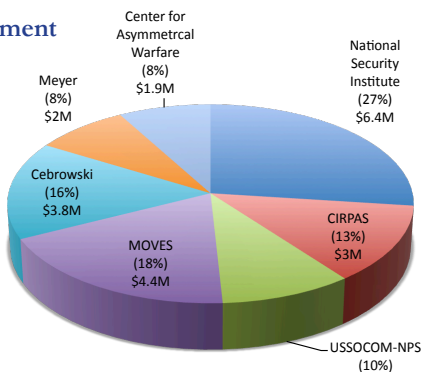
### Projects funded in July

- Homeland Security Master's Degree Program, *Ted Lewis*, *National Security Affairs* (FBI)
- Maritime Security Risk Assessment Methodology (MSRAM) Independent Verification and Validation (IV&V), *Ted Lewis*, *National Security Affairs* (USCG)
- Nuclear Smuggling and the Global Proliferation Landscape, *James Russell*, *National Security Affairs* (WINPAC)

## Research and Education Institutes and Centers

Funds received to date: \$24.6M

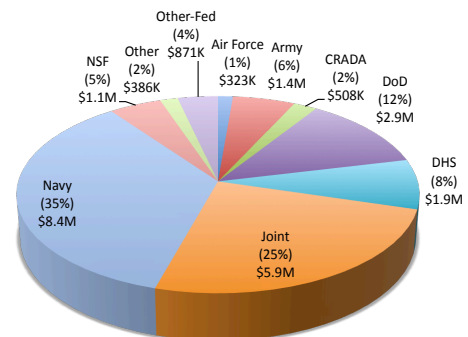
### By Department



### Projects funded in July

- PSOM Support to III CORPS, *Ed Lesnowicz*, *NSI* (U.S. ARMY III CORPS)
- Scaneagle Purchase for R&D Support at the USSOCOM-NPS Experimentation TNT Exercise, *Ray Buettner*, *Field Experimentation Coop* (National Security Agency)
- Advanced Human Systems Initiatives at the Naval Postgraduate School's (NPS) Modeling and Virtual Environments and Simulation Institute, *Paul Chatelier*, *MOVES* (ONR)
- Medical Simulation and Training Technology, *Paul Chatelier*, *MOVES* (TATRC)
- Human, Social, Cultural, and Behavioral Program Support, *Rudy Darken*, *MOVES* (OUSD)
- Centrifuge Motion Base Workshop, *Michael McCauley*, *MOVES* (NAVAIR)

### By Sponsor



- Advanced Distributed Learning Initiatives at NPS, *Joe Sullivan*, *MOVES* (OSD)
- Demonstration of Exterior Insulation Technology at Department of the Navy Facilities, *Paul Shebalin*, *MEYER* (NAVFAC)
- Technical Support for the Airborne Electronic Attack, Jamming and Technical Optimization Program, *David Banks*, *CAW* (NAWC-Weapons Division)
- Observe Vietnam Exercise on Search and Rescue, *David Banks*, *CAW* (PACOM)
- USN Strategic Communications Workshop, *Philip Quast*, *ELO* (SW Region)



## PROMOTING NPS RESEARCH

Many of you have contributed to our “Research Showcase” events over the last several years. These events have been very well received and have been a great venue for promoting NPS Research. We thank all that have contributed to making these showcases a success.


We are now planning a limited showcase for the NPS Centennial Reception in Washington, DC. A new poster design has been developed for this event. As you can see, this is much more of a visual representation with a limited narrative and impact statement.

This new design will also be used to develop the NPS Research website. We plan to have revolving images (based on the poster design) highlighting NPS research. We will also be utilizing a version of the new design for the Research Brief given to NPS’ many visitors.


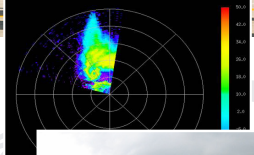

The RSPO staff will complete the posters with the input provided by the researcher. The requirements for the poster include:

- One large overall representative image (must be high-resolution file)
- Two or three supporting images
- Short narrative or executive summary describing research
- Impact sentence as a result of the research

As mentioned above, this new design will be utilized for several venues: showcases, the research website, and command briefs. The RSPO will provide a mounted copy of the poster (24x36) to the researcher for department use. We look forward to working with you. Please contact [research@nps.edu](mailto:research@nps.edu) to start the process.




### Weather Processing Capability



*The Center for Interdisciplinary Remotely-Piloted Aircraft Studies (CIRPAS) at NPS operates manned, instrumented research aircraft in support of the scientific community and air-vehicle support for military training, testing, evaluation, and demonstration. CIRPAS supports the atmospheric and ocean sciences with an instrumented Twin Otter, ground-based, mobile, meteorological radar and lidar, a suite of meteorological, aerosol, cloud, precipitation, radiation, and chemical sensors, and a calibration lab.*

**The operational payoff for the military is the integration of current weather data into the tactical-radar picture.**

Center for Interdisciplinary Remotely-Piloted Aircraft Studies  
Director Robert Bluth, CIRPAS, [rbluth@cirpas.org](mailto:rbluth@cirpas.org)  
Professor Jeff Knorr, Department of Electrical and Computer Engineering, [jknorr@nps.edu](mailto:jknorr@nps.edu)



NAVAL POSTGRADUATE SCHOOL

## WORKING WITH INDUSTRY

NPS can work with industry and other nongovernmental agencies through a Cooperative Research and Development Agreement or a “work for others” arrangement. The following agreements were executed in July 2009.

- Equipment Loan, Wintec Arrowmaker, Inc., *Raymond Buettner*, NPS/SOCOM. Wintec equipment will be used in communications experiments at the next four NPS/SOCOM field trails.
- Spacecraft Survivability, Lockheed Martin, *Chris Adams*, MAE. Partners are developing concepts of spacecraft survivability and survivability engineering methodologies and analysis, producing a primer on the subject.

## NPS RESEARCH INITIATION PROGRAM

The Research Initiation Program supports new tenure-track faculty in their first two years at NPS. NPS is committed to helping new faculty establish their research program and will (within its budget) underwrite new tenure-track faculty and assure funding for up to one quarter in each of their first two years. In spite of this program, faculty are expected to make a strong effort to obtain reimbursable funding themselves. RIP funding is not guaranteed in addition to any reimbursable funding received in the first two years. Second year RIP funding is contingent upon the submission of a research proposal to an external sponsor in the first year, and submission of a progress report detailing first-year accomplishments and plans for second-year research in light of first-year progress.